

Claims:

1. A process for purifying VWF, characterized by carrying out at least one hydroxylapatite flow chromatography.
2. The process for purifying VWF, characterized in that
 - (i) a composition containing VWF and one or more contaminating proteins is contacted with a hydroxylapatite matrix so as to bind at least one contaminating protein to the hydroxylapatite matrix, while VWF is substantially not bound to the hydroxylapatite matrix, and optionally
 - (ii) unbound VWF is separated from the hydroxylapatite matrix.
3. The process according to claim 1 or 2, characterized in that VWF is found in the flow and at least one contaminating protein is bound to hydroxylapatite.
4. The process according to any of claims 1 to 3, characterized in that the contaminating protein is fibronectin or fibrinogen.
5. The process according to any of claims 1 to 4, characterized in that hydroxylapatite chromatography is carried out at a pH of 6.5 to 8.0, preferably 6.8 to 7.5.
6. The process according to any of claims 1 to 5, characterized in that a solution containing sodium phosphate and/or potassium phosphate is used as the running buffer.
7. The process according to claims 1 to 6, characterized in that VWF is bound to a hydroxylapatite matrix in another chromatographic step and then eluted.
8. The process according to claim 7, characterized in that in another chromatographic step
 - (a) VWF is bound to the hydroxylapatite matrix,

- (b) impurities are washed out, and
- (c) the VWF containing fraction of interest is then eluted at a higher salt concentration.

9. The process according to claim 8, characterized in that in step (a) a composition containing VWF, one or more contaminating proteins and 1 to 200 mM, preferably 1 to 50 mM, sodium and/or potassium phosphate, is contacted with the hydroxylapatite matrix.

10. The process according to claim 8 or 9, characterized in that in step (b) the hydroxylapatite matrix is washed with a buffer containing 100 to 300 mM, preferably 150 to 250 mM, sodium and/or potassium phosphate.

11. The process according to any of claims 8 to 10, characterized in that in step (c) the VWF containing fraction of interest is eluted with a buffer containing 200 to 500 mM, preferably 250 to 400 mM, sodium and/or potassium phosphate.

12. The process according to any of claims 7 to 11, characterized in that hydroxylapatite chromatography is carried out at a pH of 5 to 7.5, preferably 5.5 to below 6.8.

13. The process according to any of claims 1 to 12, characterized in that flow chromatography with hydroxylapatite is initially carried out, VWF not binding to the hydroxylapatite matrix, and then the flow fraction is re-chromatographed under binding conditions and the VWF fraction is eluted.

14. The process according to any of claims 1 to 13, characterized in that a previously purified plasma fraction is used as the starting material.

15. The process according to any of claims 1 to 14, characterized in that another purified cryoprecipitate solution is used as the starting material.

16. The process according to any of claims 1 to 15, characterized in that a cryoprecipitate solution precipitated with aluminum hydroxide is used as the starting material.

17. The process according to any of claims 1 to 16, characterized in that a chromatographically pre-purified cryoprecipitate solution precipitated with aluminum hydroxide is used as the starting material.

18. The process according to any of claims 1 to 17, characterized in that a pH precipitation is carried out prior to the hydroxylapatite chromatography to separate fibronectin.

19. The process according to any of claims 1 to 18, characterized in that a VWF containing protein solution from cell culture supernatants is used as the starting material.

20. The process according to any of claims 1 to 19, characterized in that hydroxylapatite is used which contains fluoride ions.

21. Use of hydroxylapatite for purifying VWF.

22. VWF containing composition obtainable by a process according to any of claims 1 to 20.

23. A composition according to claim 22, characterized in that it is a purified VWF preparation.